price, so that supplier will be forced to reduce its price until it is charging no more than its rival.

40. In other areas of Louisiana, apparently, the rates of the competing carriers are different, such that one or the other carrier offers cheaper service for a given volume of calling. The LPSC offers these differences as evidence of non-competitive market division. However, differences in rate structures between carriers are consistent with vigorous price competition. As carriers compete, they may experiment with different pricing plans to see which plan is most attractive to consumers. There are many competitive industries in which different firms use different pricing structures. An example is provided by health clubs, which charge various combinations of initiation fees, monthly membership fees (sometimes for bundled services and sometimes a la carte for use of exercise equipment, pools, courts, lockers, towels, etc.), daily entrance fees, and hourly usage fees (for such things as aerobics classes and court-time).

41. Evidence on the price elasticity of industry demand for cellular service shows that cellular prices have not been at monopoly levels. An industry demand curve for cellular service measures the total demand for services from all cellular providers in a market, as opposed to the demand for the services from just one provider. The price elasticity of demand at a point along a demand curve measures how responsive the quantity demanded is to a change in price. If the price elasticity of demand is equal to one, then a one percent increase in price leads to a one percent reduction in quantity demanded. This implies that total revenue (price times quantity) is not changed by a small price increase. If the price elasticity is less than one, a one percent increase in price leads to a reduction in quantity demanded of less than one percent. This implies that total revenue will increase if price is increased. It is common for an industry demand curve to be characterized by a price elasticity of demand of less than one at low price levels and for the elasticity of the curve to increase as the price level is increased.

42. A price elasticity of less than one is consistent with competitive pricing and inconsistent with monopoly pricing. Hausman concluded that cellular systems typically operated at a point along the industry demand curve for cellular services at which the price elasticity of demand was substantially less than one (Hausman at 14). Hausman's finding implies that cellular systems were charging prices substantially below the monopoly level. This can be demonstrated as follows: If they had charged higher prices, given an elasticity of demand of less than one they would have increased their revenues (see ¶41). They would also have sold less output, and this would have enabled them to reduce their costs. Thus, a higher price would have increased profits both by increasing revenues and reducing costs. From this Hausman infers that cellular suppliers were not colluding to raise prices to the monopoly level.

4. Innovation

43. In addition to declining real prices, cellular systems appear to have been performing well in other dimensions. There has been substantial technological change, permitting better service (for example, reduced interference and fewer blocked and dropped calls), new services (for example, information services, voice mail, personalized traffic routing, and data services such as remote monitoring), and higher capacity and lower costs (for example, digital conversion). There have been many innovations in pricing and other aspects of plans used to market services (for example, pricing plans aimed at high and low use customers and occasional callers, discounts for usage outside the central business district, and equipment discounts and free air time for new customers).

F. *Conclusions on Market Structure and Performance*

44. Regardless of concentration levels, there is no sound empirical basis for a conclusion that cellular systems have been exercising significant market power. None of the LPSC's alleged evidence of anticompetitive behavior survives careful economic analysis. There is evidence of competition, and concentration will fall substantially over the next several years. Consequently, there is no empirical basis for believing that there is

a problem with market performance that would warrant the substantial costs that would be imposed by regulation of CMRS pricing. Thus, the Commission should continue its historical forbearance from economic regulation of this industry and should deny the LPSC petition.

IV. Effectiveness of Regulation

45. The LPSC has presented no convincing evidence that its regulation of cellular carriers, or that of any state, has provided significant benefits to consumers.

46. Some states have been regulating cellular service prices while others have not. If price regulation benefited consumers, it should be possible to demonstrate that prices are just and reasonable in states with price regulation while they are not in states without such regulation, other things equal.

47. The LPSC has not attempted to provide such an empirical justification for rate regulation. In fact, a study by Hausman comparing prices in regulated and unregulated states shows that state regulation of the CMRS industry has *not* reduced prices. In fact, prices were 5 to 16 percent higher in states that required advance notice tariff filings than in states that did not regulate prices (Hausman at 10).

48. The ineffectiveness of state regulation of the cellular industry is not surprising. In many other industries regulation has not helped, and in fact has harmed, consumers. Winston recently examined evidence on the effects of deregulation of industries including airlines, railroads, trucking, and telecommunications. He found that in each of these industries consumers were better off after deregulation (Clifford Winston, "Economic Deregulation: Days of Reckoning for Microeconomists," *Journal of Economic Literature*, Sept. 1993, at 1284).

49. In the period from about 1975 to 1984, the Federal government deregulated a number of industries on the basis of a consensus among scholars and policy makers that regulation, on the whole, failed to im-

prove consumer welfare, and in many cases reduced it. Among the reasons for this conclusion was the fact that special interests were often over-represented in the regulatory policy-making process, compared to the consumer interest, making predictable but often specious arguments to protect their parochial interest in continuing regulation. Consequently, prices and services in regulated industries departed, often considerably, from those that would have prevailed in the markets that regulators had displaced. Even though those markets were only imperfectly competitive, their performance seemed likely to improve as a result of deregulation. And so, on the whole, it did (Winston; Sam Peltzman, "The Economic Theory of Regulation after a Decade of Deregulation," *Brookings Papers on Economic Activity: Microeconomics,* 1989, 1-41; Roger G. Noll and Bruce M. Owen, *The Political Economy of Deregulation: Interest Groups in the Regulatory Process,* American Enterprise Institute, 1983, at 3-65).

V. Costs of Rate Regulation

50. State regulation of prices charged by CMRS providers would have no benefits. It would, however, result in substantial costs. First, regulated prices would inevitably be below the efficient level in many circumstances. This is inevitable because regulators simply lack the resources to determine what price levels are efficient, and they lack the resources to change regulated prices as cost and demand conditions change. Furthermore, regulators are likely to base regulated prices on faulty economic analysis. For example, they may set prices with reference to the historical cost of tangible assets rather than replacement costs, including intangible assets, start-up losses, and the scarcity value of spectrum. This would cause prices to be set at inefficiently low levels, would cause scarce resources to be wasted, and would harm consumers.

51. Price regulation also limits the ability of regulated firms to respond to changes in technology, cost and demand conditions, and deters new investments, quality improvements, introduction of new services, and entry by reducing returns on pro-competitive activities. The distorting effects of price regulations that limit returns on investments are likely to be

greatest in industries such as CMRS that are characterized by rapid growth, technological change, and relatively high risk.

52. In industry after industry, regulation has restricted the introduction of new products and new sources of competition. For example, Commission regulations in the late 1960s and early 1970s delayed the growth of cable television (Owen and Wildman at 215). Other industries in which regulation was used to prevent or restrict competition include international telecommunications, title insurance, surface freight transportation, and airlines (Owen and Braeutigam; Peltzman).

53. It is also important to remember that government regulations involve substantial administrative costs both for the industries being regulated and for the government.

VI. Implications of Authorizing Regulation

54. The LPSC is petitioning for broad discretionary authority to engage in a range of regulatory activities. In these circumstances, one must consider what the LPSC might do with the authority it requests. I have two reasons for concern. First, both conceptually and empirically, the economic analysis in the LPSC petition is very weak. This casts doubt on the ability of the LPSC to carry out behavioral regulation in a way that would be in the public interest. Second, even though the LPSC has not made a case for continuing its current level of regulation, apparently it is considering imposing much more burdensome and inefficient regulation. It has recently opened a docket to consider whether it should subject cellular carriers to rate-base/rate-of-return or some other type of regulation (LPSC Petition at 28). Rate-of-return regulation is well known to produce serious inefficiencies by dulling firms' incentives to reduce costs, make investments, and take risks. Thus, granting the LPSC's petition may lead to regulation that is more wasteful than the industry has seen in the past.

55. Differences in regulation among states may lead cellular firms to distort investment and innovation decisions. A cellular firm operating in more than one state might invest and innovate sooner in states that do

not have rate regulation than in states that do. Consumers in regulating states may suffer from these distortions. Furthermore, regulations in some states are likely to have adverse spillover effects in other states that do not regulate. For example, price controls in some states are likely to reduce the returns to improvements in service that would make sense only if they were put into effect in all states in which a carrier operates, and thus such improvements are likely to be deterred or delayed. This outcome does not appear to been intended by Congress.

VII. Conclusion

56. For the reasons given above, I have concluded that decisions on pricing of CMRS services are best left to the market rather than being subjected to state regulation. There is no persuasive evidence that government price controls would have significant benefits, but they would have substantial costs. Approval of continuing state price regulation would therefore be likely to harm consumers. Neither cellular systems nor other CMRS providers have unilateral market power. Regardless of concentration levels, conditions in markets for CMRS are not conducive to successful collusion, and there is no persuasive evidence that CMRS providers have been exercising significant market power. To the contrary, there is evidence of sufficient competition to warrant reliance on market forces rather than government regulation. Moreover, concentration will fall substantially over the next several years. Consequently, there is no empirical basis for believing that there is a problem with market performance that would warrant regulating CMRS pricing. Overall, I conclude there is no basis for the Commission to alter its conclusion that competition is sufficient to justify forbearance with regard to regulation of CMRS pricing. Nothing about Louisiana requires an exception to these conclusions.

I declare under penalty of perjury that the foregoing is true and correct.

Bruce M. Owen

September 19, 1994

CERTIFICATE OF SERVICE

I, Cherie R. Kiser, do hereby certify that a copy of the foregoing Opposition of McCaw Cellular Communications, Inc. to the Petition of the Louisiana Public Service Commission was served on the following by hand or first class mail, postage prepaid or hand delivered this 19th day of September 1994.

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